

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A system comprising:
a structural work piece having an opening;
a tubular fitting received in the opening of the structural work piece, the fitting comprising:

a ring portion having an outer circumference and an inner circumference, the outer circumference being closely receivable by the opening in the structural work piece when the ring portion is inserted into the opening;

at least a first coupling member having at least a minimum inner circumference, an outer envelope, and an end section, the coupling member extending axially from the ring portion, the minimum inner circumference being larger than the inner circumference of the ring portion, the outer envelope sized to be moved through the opening in the work piece, and the end section configured to be engageable with another device; and

wherein the ring portion is expanded so as to establish a secure interference fit between the outer circumference of the ring portion and the opening in the work piece.

2. (Previously Presented) The system of claim 1 wherein the ring portion includes a radial flange located adjacent to the work piece when the outer circumference of the ring portion is within the opening in the work piece.

3. (Previously Presented) The system of claim 1, comprising a radially opening girth groove located near the end section of the coupling member.

4. (Previously Presented) The system of claim 1, comprising a second coupling member projecting axially from the ring portion and loaded on an opposing side of the work piece from the first coupling member.

5. (Cancelled)

6. (Previously Presented) The system of claim 4 wherein each coupling member has a radially opening girth groove.

7.-18. (Cancelled)

19. (Previously Presented) An assembly comprising:

a structural member having an opening defining an inner surface;

a fitting having a ring portion and at least one coupling section, the ring portion having an outer circumference and an inner circumference, the outer circumference being closely receivable by the opening in the structural member before the ring portion is radially expanded, the ring portion being radially expanded a sufficient amount to establish a secure interference fit between the outer circumference of the ring portion and the inner surface of the opening contacting the outer circumference, the at least one coupling section having at least a minimum inner circumference, an outer envelope, and a first portion, the coupling section extending axially from the ring portion, the minimum inner circumference being larger than the inner circumference of the ring portion, the outer envelope sized to be moved through the opening in the work piece; and

a first member having an inner passage and a first segment, the inner passage in fluid communication with the fitting when the first segment is coupled with the first portion of the at least one coupling section.

20. (Previously Presented) A method for routing a conduit through an opening in a structural work piece, the method comprising:

inserting a first portion of a fitting into the opening in the structural work piece, the first portion of the fitting having an outer envelope sufficiently sized to be received by the opening;

positioning a ring portion of the fitting in the opening of the work piece, the ring portion connected with the first portion where the first portion extends axially from the ring portion, the ring portion having an outer circumference sized to fit tightly within the opening of the work piece while the first portion extends outwardly from the work piece;

inserting a mandrel through the fitting located in the work piece, the ring portion of the fitting having an outer circumference and an inner circumference sized to be radially expandable by an increased circumference section of the mandrel, the first portion of the fitting having an inner circumference sized to be slightly larger than the increased circumference section of the mandrel; and

expanding the ring portion of the fitting in an outwardly radial direction by physically contacting the increased circumference section of the mandrel with the ring portion as the mandrel is forced through the inner circumference of the ring portion such that the outer circumference of the ring portion contacts the opening so as to form an interference fit.

21. (Previously Presented) The method of claim 20, further comprising:

cold working the material in the work piece adjacently located to the outer circumference of the ring portion of the fitting.

22. (Previously Presented) A method for routing a conduit through an opening in a work piece, the method comprising:

inserting a first portion of a fitting into the opening in the work piece, the first portion of the fitting having an outer envelope sufficiently sized to be received by the opening, the fitting further having a ring portion positioned in the opening of the work piece, the ring portion connected with the first portion where the first portion extends axially from the ring

portion, the ring portion having an outer perimeter sized to fit tightly within the opening of the work piece;

passing a mandrel through the fitting located in the work piece, the ring portion of the fitting having an inner perimeter sized to be radially expandable by an increased perimeter section of the mandrel, the first portion of the fitting having an inner perimeter sized to be slightly larger than the increased perimeter section of the mandrel;

expanding the ring portion of the fitting in an outwardly radial direction by physically contacting the increased perimeter section of the mandrel with the ring portion as the mandrel is forced through the inner circumference perimeter of the ring portion; and

coupling a second device with the first portion of the fitting, the second device affixed to the conduit such that the conduit is routed through the secured fitting when the second device is attached.

23. (Previously Presented) The assembly according to claim 19 wherein the first segment is coupled with the first portion of the at least one coupling section with a clamp.

24. (Previously Presented) The assembly according to claim 19 wherein the first segment of the first member and the first portion of the at least one coupling section are configured with grooves to receive seals.

25. (Previously Presented) The assembly according to claim 19 wherein the minimum inner circumference of the at least one coupling section is smooth.

26. (Previously Presented) The assembly according to claim 19 further comprising:

a radial flange coupled to the ring portion, the radial flange separated from the at least one coupling section by the ring portion.

27. (Previously Presented) The assembly according to claim 26 wherein a thickness of the ring portion is substantially equivalent to a thickness of the work piece.

28. (Previously Presented) The system of claim 1 wherein the structural work piece is a bulkhead.

29. (Previously Presented) The assembly of claim 19, further comprising:
a second coupling section of the fitting, the second coupling extending axially from the ring portion such that the ring portion is interposed between the two coupling sections;
and

a second member having an inner passage in fluid communication with the fitting when the second member is coupled with the second coupling section.

30. (Previously Presented) The method of claim 20, further comprising:
after expanding the ring portion, coupling a conduit to the first portion of the fitting.

31. (Previously Presented) The method of claim 20 wherein the structural work piece is a bulkhead of an aircraft.

32. (Previously Presented) The method of claim 20 wherein the first portion extends from the structural work piece when the ring portion is positioned within the opening structural work piece.

33. (Previously Presented) A method of installation, the method comprising:
inserting a first portion of a unitary fitting into an opening in a bulkhead;
moving the first portion through the opening so that at least a portion of a ring portion of the fitting is in the opening of the bulkhead and the first portion and a second portion of the fitting extend outwardly from opposite sides of the bulkhead, the ring portion being

disposed between the first and second portions and having an outer circumference sized to fit tightly within the opening of the bulkhead;

inserting a mandrel through the fitting located in the bulkhead, the ring portion of the fitting having an inner circumference sized to be radially expanded by an increased circumference section of the mandrel, the first and second portions of the fitting each having an inner circumference sized to be slightly larger than the increased circumference section of the mandrel;

expanding the ring portion of the fitting in an outwardly radial direction as the mandrel is moved through the inner circumference of the ring portion, the outer circumference of the ring portion contacting the opening so as to form an interference fit between the fitting and the bulkhead; and

after expanding the ring portion, coupling a first conduit to the first portion and a second conduit to the second portion, a passageway in the fitting extending between the first and second conduits.

34. (Previously Presented) The method of claim 33 wherein a hexagonal shaped flange for engaging a wrench extends in an outwardly radial direction from the ring portion.

35. (Previously Presented) The system of claim 1 wherein the opening has an axial length that is substantially equal to an axial length of the ring portion.

36. (Previously Presented) The system of claim 1 wherein at least one of the inner circumference and the outer circumference of the ring portion defines a generally cylindrical surface.

37. (Previously Presented) The system of claim 1 wherein a portion of the coupling member adjacent the ring portion has the minimum inner circumference that is larger

than the inner circumference of the ring portion and a maximum outer circumference that is smaller than the outer circumference of the ring portion.

38. (Previously Presented) The method of claim 20 wherein, before the expanding of the ring portion, the increased circumference section of the mandrel is larger than the inner circumference of the ring portion such that moving the increased circumference section of the mandrel through the ring portion causes the expanding of the ring portion.

39. (Previously Presented) The method of claim 20 wherein the mandrel comprises a circular tapered section that defines the increased circumference section.

40. (Previously Presented) The method of claim 22 wherein the mandrel comprises a circular tapered section that defines the increased perimeter section.